

### CLAIM AMENDMENTS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A preamplifier integrated circuit, comprising:  
a preamplifier connectable to an element having a susceptibility to damage from a potential over a threshold, the preamplifier configured to provide a current to the element 400 millivolts, and conducting with an element conductance over an element operating voltage range under 400 millivolts at element leads; and  
at least one terminal connectable to the element; and  
a passive non-linear shunt protective device connected to the at least one terminal element-lead, the passive non-linear shunt protective device providing conducting with a shunt conductance when the voltage potential is above the threshold above 400 millivolts that is greater than the element conductance, and conducting with a shunt conductance over the element operating voltage range that is less than the element conductance.
2. (Canceled)
3. (Canceled)
4. (Currently Amended) The circuit of Claim 1 [3] wherein the passive non-linear shunt protective device comprises a static induction device.
5. (Currently Amended) The circuit of Claim 1 [3] wherein the passive non-linear shunt protective device comprises a Schottky diode.
6. (Currently Amended) The circuit of Claim 1 [3] wherein the passive non-linear shunt protective device comprises a Junction Schottky Barrier diode.

7. (Currently Amended) The circuit of Claim 1 [3] wherein the passive non-linear shunt protective device comprises a Trench MOS Schottky Barrier diode.

8. (Currently Amended) The circuit of Claim 1 further comprising wherein the element comprises a magnetoresistive element coupled to the at least one terminal transducer.

9. (Currently Amended) The circuit of Claim 8 wherein the magnetoresistive element transducer comprises a spin tunneling junction magnetoresistive transducer.

10. - 26. (Canceled)

27. (New) A data storage device comprising:

an element having a susceptibility to damage from a voltage potential that exceeds a threshold;

a first flex circuit coupled to the element,

a preamplifier, the first flex circuit providing at least one electrical connection from the preamplifier to the element; and

a non-linear shunt protective device coupling the preamplifier and the element, the non-linear shunt protective device providing a shunt conductance when the voltage potential is above the threshold.

28. (New) The data storage device of claim 27, wherein the non-linear shunt protective device is located on the first flex circuit.

29. (New) The data storage device of claim 27, wherein the element is located on a read/write head.

30. (New) The data storage device of claim 29, wherein the non-linear shunt protective device is located on the read/write head.

31. (New) The data storage device of claim 27, further comprising a second flex circuit, wherein the preamplifier is located on the second flex circuit.

32. (New) The data storage device of claim 31, wherein the non-linear shunt protective device is located on the second flex circuit.

33. (New) The data storage device of claim 32 further comprising a disc drive.

34. (New) The data storage device of claim 27, wherein the element is a magnetoresistive transducer.

35. (New) The circuit of claim 34, wherein the magnetoresistive transducer comprises a spin tunneling junction magnetoresistive transducer.

36. (New) The circuit of claim 27, wherein the non-linear shunt protective device comprises a static induction device.

37. (New) The circuit of claim 27, wherein the non-linear shunt protective device comprises a Schottky diode.

38. (New) The circuit of claim 27, wherein the non-linear shunt protective device comprises a Junction Schottky Barrier diode.

39. (New) The circuit of claim 27, wherein the non-linear shunt protective device comprises a Trench Metal Oxide Semiconductor (MOS) Schottky Barrier diode.

40. (New) A head stack assembly comprising:  
an element having a susceptibility to damage from a voltage potential that exceeds a threshold;  
a first circuit board coupled to the element,  
a preamplifier, the first circuit board providing at least one electrical connection from the preamplifier to the element; and  
a non-linear shunt protective device coupling the preamplifier and the element, the shunt protective device providing a shunt conductance when the voltage potential is above the threshold.
41. (New) The head stack assembly of claim 40, wherein the non-linear shunt protective device is located on the first circuit board.
42. (New) The head stack assembly of claim 41, wherein the first circuit board is a flexible circuit board.
43. (New) The head stack assembly of claim 40, wherein the element is located on a substrate and the non-linear shunt protective device is located on the substrate.
44. (New) The head stack assembly of claim 40, wherein the preamplifier integrated circuit is a multiple channel preamplifier integrated circuit.